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# Viral Load Suppression and Unmet Needs among Participants in the Medical Monitoring Project, 2009

## Background

The Medical Monitoring Project (MMP) is a surveillance project designed to learn about the experiences and needs of people who are receiving care for HIV. The federal Centers for Disease Control and Prevention (CDC) funds the project and partners with 23 city, county and state health departments across the country to conduct it. Washington State has been participating with MMP since its inception in 2005. The surveillance project uses a three-stage approach to develop a representative sample of approximately 400 individuals in Washington State who received medical care at any of about 20 selected medical facilities in a specific four-month period. After the sample is chosen, project staff work with the patients' health care facilities to recruit patients for interviews and review their medical records. The interview questionnaire asks for a variety of information related to a patient's demographics, access to care and prevention services, use of HIV antiretrovirals and health- and risk-related behavioral information. The purpose of the medical record review is to obtain important clinical information related to a patient's health status and HIV-related care.

## Methods

The analyses presented in this article include data primarily drawn from patient interviews with supplementary laboratory data from medical record reviews. We looked at descriptive characteristics (patient demographics, psychosocial factors, unmet needs, antiretroviral drug use and adherence) of participating patients and compared these characteristics with suppressed viral load or high CD4 as evidenced by chart abstractions. For the most part we looked at a simple dichotomous outcome of suppressed viral load defined as an undetectable or very low result (200 or fewer copies per milliliter). For individuals with no viral load test or unknown viral load results, we included a high CD4 count (above 500 per  $\mu\text{L}$ ) with the suppressed group, as many individuals in this CD4 range would not yet have started on antiretrovirals and would be expected to fare as well clinically (or even better) than individuals with suppressed viral load and lower CD4 counts.

## Results

During the 2009 MMP cycle, project staff interviewed 180, or 45% of the total 400 sampled patients. Of the 20 sampled and eligible facilities, we collected data from 19 (95%). We also completed 252 (63%) medical record abstractions. The medical records of 156 of the 180 patients interviewed included HIV viral load data within the previous year. Of the 24 that did not include HIV viral load data, 21 included evidence of care by inclusion of CD4 data. There were three patients without HIV viral load or CD4 data. Demographic characteristics of participants are presented in **Table 1**.

Substance use was common. This included tobacco use (56% smoked cigarettes daily), alcohol (14% drank daily), and illicit drug use (42% including marijuana, methamphetamines, injection, and other drugs).

Twenty-five percent of participants reported never missing any doses of their antiretroviral medications, 14% last missed a dose more than three months ago, 16% missed a dose 1–3 months ago, and approximately 30% report missing one or more doses of antiretrovirals within the past month. The most common reasons for missing medications include forgetting to take them (19%) and changes in daily routine, including travel (19%). Missing antiretrovirals within the past month was negatively associated with viral load suppression.

Most participants (90%) were receiving antiviral therapies, and of these, most (77%) had viral suppression, see **Figure 1**.

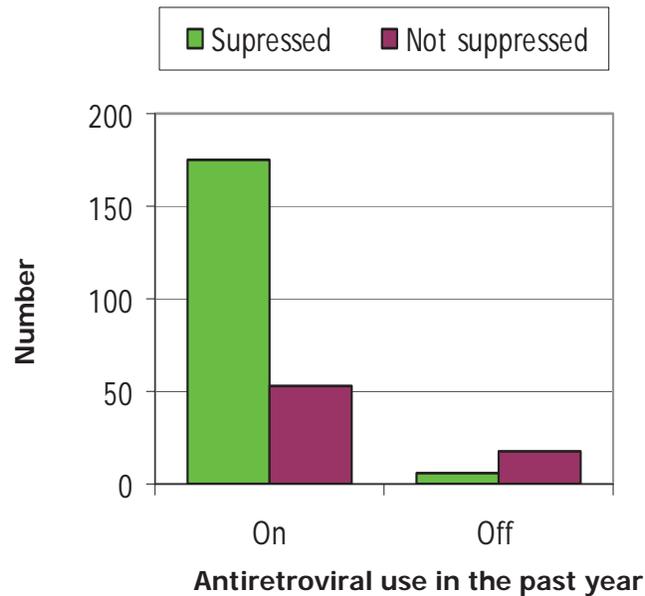
While all participants were receiving medical care, about half reported having at least one unmet need for some sort of service. Fifteen percent reported having at least three unmet needs. Dental, peer support and transportation were the three most common unmet needs (**Table 2**).

**Table 1: Patient characteristics and suppressed viral load, Medical Monitoring Project, Washington State, 2009, N=180**

Characteristic		N <sup>1</sup>	Percent
<b>Sex</b>	Male	147	82%
	Female	33	18%
<b>Sexual orientation</b>	Gay/lesbian	100	61%
	Straight	49	27%
	Bisexual	15	8%
	Other	6	3%
<b>Age in years</b>	< 18	2	1%
	18-24	24	13%
	25-34	49	27%
	35-54	68	38%
	55+	37	21%
<b>Education</b>	Less than high school	20	11%
	High school/GED	31	19%
	Some college	73	41%
	Bachelor's degree	31	17%
	Any post-graduate	22	12%
<b>Income (% of federal poverty level)</b>	≤ 100%	75	42%
	101-133%	23	13%
	134-150%	2	1%
	151-185%	15	8%
	201-250	22	12%
	>250%	43	24%
<b>Race/ethnicity</b>	Am. Indian / AK native	3	2%
	Asian	1	1%
	Black	20	11%
	Hispanic (any race)	22	12%
	Pacific Islander	1	1%
	White	116	64%
	Multiracial	12	7%
	Unknown	5	3%

<sup>1</sup>Categories may not add up to total because of missing data for individual variables.

**Figure 1: Viral suppression and antiretroviral use, Medical Monitoring Project, Washington State, 2009**



**Table 2: Unmet Needs for Services, Medical Monitoring Project, Washington State, 2009**

Service	N	%
Dental	33	18%
Peer support	22	12%
Transportation	19	11%
Housing	16	9%
SSDI (Supplemental Security Disability Insurance)	14	8%
Case management	13	7%
Mental health	12	7%
Substance abuse counseling	11	6%
AIDS Drug Assistance Program (ADAP)	10	6%
Meals	10	6%
Medication reminders	6	3%
<b>Number of unmet services</b>		
None	91	51%
One	35	19%
Two	27	15%
Three	18	10%
Four or more	9	5%

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Five or fewer individuals also stated needs for home health services, domestic violence services, counseling, interpreter, and childcare services. As expected, poverty was associated with care gaps, with 67% of those at or below the federal poverty level reporting one or more gap versus only 37% of individuals with higher incomes reporting any service gaps. Individuals reporting three or more service gaps were far less likely to achieve viral suppression (52%) relative to those with one or two gaps (77% suppressed) or no service gaps (74%) suppressed.

## Discussion

MMP is a vitally important project to describe and monitor individuals with HIV and HIV care locally and nationally. Locally we find that among MMP participants, most are receiving appropriate medical care and are virologically-suppressed. Viral suppression is strongly associated with antiretroviral use. It is concerning that the benefit of viral suppression is not as prevalent among individuals reporting multiple gaps in other (non-medical) HIV care services.

However, MMP faces multiple challenges. Foremost is a low participation rate which places representativeness of the data in to question. Compounding low participation of patients is provider refusal. Although our provider refusal rate is low (typically less than 10% each year), each non-participating facility also decreases the representativeness of the sample. Further, engagement of medical providers in patient recruitment is key to the success of the project, as recruitment by a physician known to a patient is more likely to be successful than recruitment by an unknown person from the health department. Facilities and providers also need to provide access to medical records.

In the future, MMP participation may be improved by the use of telephone interviews. Other methods to make this project more representative may include streamlined medical record reviews (to complete briefer reviews on a larger number of people without additional resources), and sampling from core HIV/AIDS surveillance (instead of asking providers for a list of patients seen the first four months of the year).

- *Contributed by Tom Jaenicke, Elizabeth Barash, and Susan Buskin*